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Reporter

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DOE Public Hearing on Draft EIS  
Statham Hall, Lone Pine, California  
November 4, 1999

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Comments by Ray Sisson, Chair  
Inyo County Environmental Review Board

### Groundwater Issues

1

[Inyo County is very concerned about the long-term threat the repository poses to regional groundwater supplies and to communities east of the Owens Valley. Hydrologic studies conducted by Inyo, Nye and Esmeralda Counties point to the existence of a continuous aquifer running from beneath Yucca Mountain southwards to Tecopa, Shoshone and Death Valley Junction. These studies also support the contention that water flowing beneath Yucca Mountain flows southeast to become surface water flowing into Death Valley. Some of this water is used in Death Valley for commercial and domestic purposes, and of course supports natural habitat under Federal protection.

The two studies I'm referring to are a 1996 publication titled: "*An Evaluation of the Hydrology at Yucca Mountain: The Lower Carbonate Aquifer and Amargosa River*" and the 1998 "*Death Valley Springs Geochemical Investigation*". These studies were conducted with Federal funding in accordance with USGS quality assurance and quality control measures, and will be submitted to DOE in conjunction with our written comments in January.

Nowhere in the Environmental Impact Statement does DOE address our findings, either to acknowledge or deny the implications of these studies with regard to potential pathways for contaminants to reach human populations or a National Park. These studies have been available to DOE for some time and are absent from the 50,000 pages of technical background material which went into development of the EIS.

This is a critical oversight on the part of DOE, which needs to be corrected by serious consideration of the scientific work sponsored by the County and the placement of our findings in the proper context.]

### Repository Design Issues

2

[The recent change of project design from a "hot" repository to a "cool" repository has major and insufficiently researched implications for groundwater flow and groundwater chemistry. The Draft EIS was issued prior to the adoption of the cool design and does not include sufficient

information to allow us, as reviewers, to evaluate the implications of the design change or understand the impacts which may be associated with the change.

It is DOE's contention that the EIS is sufficiently broad in its treatment of repository design variations to cover the switch to a cooler repository. However, recent technical discussions on repository performance conducted by the Advisory Committee on Nuclear Waste and the Nuclear Waste Technical Review Board reflect considerable uncertainty in our understanding of how the repository will behave under the cooler design. We do not believe that the current state of knowledge on repository performance lends itself to a determination that the EIS is adequate to support a decision on what the design should be.]

### Problems With Repository Closure

3

[On a related topic, we are concerned that the all the design alternatives considered in the EIS lead, ultimately, to a repository that leaks. DOE must have as its goal complete and permanent isolation of radioactive material from humans. In our estimation, the only way to meet this goal is to have a permanently open and thoroughly monitored facility.

Backfilling and closing the repository complicates close monitoring of the waste packages for structural integrity and increases the difficulty and cost of retrieving the waste should a radioactive release occur or new findings and technologies emerge which provide for safer forms of storage or reuse of the nuclear material.

With a closed repository, groundwater contamination will not be noticed until radioactive material shows up in monitoring wells, by which time a contaminant plume is probably already well developed and beyond mitigation.

Leaving the repository open and ventilated also has the potential to drive out heat and moisture which would otherwise build up in the facility, possibly slowing or eliminating movement of water through the facility into the groundwater. The EIS should include, as a mitigation measure, a commitment to leave the repository open and ventilated indefinitely, with the decision to close the facility left up to future generations.

In closing, we believe that the project should incorporate a zero-tolerance approach to radioactive releases from the repository. The project and the EIS should not anticipate a closure date for the repository, and, in order to mitigate the many uncertainties associated with repository performance, to allow flexibility in future decision-making, and to safeguard the residents and users of Amargosa Valley and Death Valley, the facility should be kept open and monitored on an indefinite basis.]